REMARKS

Applicants thank the Examiner for the thorough examination given the present application.

Claims 1-3 are pending and claims 1 and 2 are amended to reflect informalities according to US patent practice. Also, the specification is amended to address the Examiner's objection and 112, first paragraph rejection. No new matter is added.

Reconsideration and withdrawal of the outstanding rejections are respectfully requested.

Objection to the Specification and Issue under 35 USC 112, first paragraph

The Examiner has objected to the specification. Also, the Examiner has rejected claims 1-3 under 35 USC 112, first paragraph as failing to comply with the written description requirement. This objection and rejection are respectfully traversed.

As seen from the amended specification, chemical names and manufacturers of the trimerization catalysts are indicated in the relevant portions of the present specification. Thus, it is believed that claims 1-3 are sufficiently supported by the present specification. By way of the present submission, this objection and rejection are moot.

Issue under 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-3 under 35 U.S.C. § 103(a) as obvious over WO00/05289 in view of U.S. Patent No. 6,284,812 (Rotermund et al.) or U.S. Patent No. 5,010,116 (Colafati). This rejection is respectfully traversed.

The Present Invention and its Advantages

Claim 1 of the present invention is directed to a composition for preparing rigid polyurethane foam comprising: (1) 100 weight parts of a polyol mixture consisting of: 40-50 weight parts of polyol B having a OH-value of 390, which is obtained by polymerization of an organic oxide using toluenediamine (TDA) of a tetra-valent functional group as an initiator; 30-40 weight parts of polyol G having a OH-value of 450, which is obtained by mixing sucrose of a octa-valent functional group and glycerin of tri-valent functional group; and 20-30 weight parts of polyol H having a OH-value of 430, which is obtained by mixing sucrose of a octa-valent functional group and glycerin of tri-valent functional group; (2) 2.0-4.0 weight parts of water; (3) 0.3-3.0 weight parts of catalyst mixture consisting of 0.1-1.0 weight parts of gelling catalyst A; 0.1-1.0 weight parts of blowing catalyst B; and 0.1-1.0 weight parts of trimerizing catalyst E; (4) 1.0-4.0 weight parts of a silicon surface-active agent; (5) 0.5-1.5 weight parts of PFA (polyfluoroalcane); (6) 10-20 weight parts of cyclopentane; and (7) 140-170 weight parts of polyisocianate.

By the claimed features, the claimed composition for preparing rigid polyurethane foam improves adhesive strength of the polyurethane foam. See, for example, Example 3 in Table 2 of the present specification.

Distinctions over the Cited Art

As explained above, the claimed composition for preparing rigid polyurethane form is characterized in comprising a polyol mixture consisting of polyol B, polyol G and polyol H, wherein the polyol B has a OH-value of 390 and is obtained by polymerization of an organic

oxide using toluenediamine (TDA) of a tetra-valent functional group as an initiator, polyol G has a OH-value of 450 and is obtained by mixing sucrose of a octa-valent functional group and glycerin of tri-valent functional group, and polyol H has a OH-value of 430 and is obtained by mixing sucrose of a octa-valent functional group and glycerin of tri-valent functional group. Specifically, polyol G and polyol H are polyols which are obtained by mixing sucrose and glycerin. That is, these polyols are copolymers obtained from a mixture of sucrose and glycerin, not a mixture of a sucrose based polyether polyol and a sucrose based polyether polyol.

In contrast, WO00/05289 relates to a composition which includes a sucrose based polyether polyol and an aromatic amine based polyol. Also, WO00/05289 discloses that the composition can also include a glycerin initiated polyether polyol (see page 3, lines 24-25 of WO00/05289). Therefore, it is clear that the composition of W000/05289 is only a mixture of the sucrose based polyether polyol and the glycerin initiated polyether polyol, not a copolymer obtained from a mixture of sucrose and glycerin. Accordingly, the claimed composition is distinguishable from that of WO00/05289.

Further, the deficiencies of the primary reference WO00/05289 cannot be cured by the secondary references, Rotermund and Colafati. Specifically, Rotermund relates to thermally stable rigid foams based on isocyanate and discloses glycerol or sucrose as crosslinkers (see column, lines 28-31 of Rotermund). However, the polyols of Rotermund are not copolymers prepared from a mixture of sucrose and glycerin. Instead, the polyols of Rotermund are prepared from glycerol as an initiator and propylene oxide and/or ethylene oxide. See columns 3-5, and particularly, see polyols 1-3 of column 5, lines 1-54 of Rotermund. Furthermore, Colafati,

which relates to water blown foam and discloses that TMR is a trimerization catalyst, also fails to disclose or suggest the claimed features of copolymer mixture of sugar and glycerin.

Therefore, it is clear that none of the cited references discloses or suggests a composition for preparing rigid polyurethane foam comprising a copolymer obtained from a mixture of sucrose and glycerin. Thus, the claimed composition comprising a polyol mixture of polyol B, polyol G and polyol H is not expected from a person of skilled in the art even by combining the disclosure of WO00/05289 with Rotermund or Colafati.

As the MPEP directs, all the claim limitations must be taught or suggested by the prior art to establish a *prima facie* case of obviousness. See MPEP § 2143.03. In view of the fact that the cited references fail to teach or fairly suggest the claimed features, at least polyols G and H obtained from a mixture of sucrose and glycerin, a *prima facie* case of obviousness cannot be said to exist.

In light of the above remarks, since independent claim 1 is believed to overcome the 35 USC § 103(a) rejection, the dependent claims therefrom are also believed to address the same prior art rejection. Therefore, the Examiner is respectfully requested to withdraw this rejection.

In view of the above remarks, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact James T. Eller, Jr. Reg. No. 39,538 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

By  #42,874

James T. Eller, Jr.
Registration No.: 39,538
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant